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April 18, 2013

Mr. Jason Sewell and Ms. Shelly Lam
On-Scene Coordinators
Emergency Response Branch
United States Environmental Protection Agency Region V
2525 North Shadeland Avenue, Suite 100, SE-GI
Indianapolis, IN 46219

Subject: **Sugar Creek Scrap Site Assessment Report**
Terre Haute, Vigo County, Indiana
Technical Direction Document No.: S05-0001-1302-008
WESTON START Contract No.: EP-S5-06-04
Document Control No.: 2096-2A-BDCD

Dear Mr. Sewell and Ms. Lam:

The Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) is submitting the enclosed Site Assessment Report for the Sugar Creek Scrap Site located in Terre Haute, Vigo County, IN. If you have any questions or comments regarding the report or require additional copies, please contact me at (937) 602-3089.

Sincerely,
WESTON SOLUTIONS, INC.

Randy Kirkland
WESTON START Project Manager

Enclosure

cc: WESTON START DCN File

SITE ASSESSMENT REPORT
FOR THE
SUGAR CREEK SCRAP SITE
TERRE HAUTE, VIGO COUNTY, INDIANA
SITE ID NO. C5R4

NPL STATUS: NON-NPL

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V
Emergency Response Branch
2525 North Shadeland Avenue, Suite 100, SE-GI
Indianapolis, IN 46219

Prepared by:

WESTON SOLUTIONS, INC.
4710-A Interstate Drive
Cincinnati, OH 45246

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Contract No.:	EP-S5-06-04
WESTON START Project Manager:	Randy Kirkland
Telephone No.:	(937) 602-3089
EPA On-Scene Coordinators:	Jason Sewell and Shelly Lam

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Cincinnati, OH 45246

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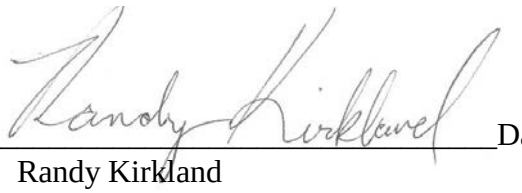
Prepared by:  Date: April 18, 2013

Randy Kirkland
WESTON START Project Manager

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LIST OF ACRONYMS AND ABBREVIATIONS

ALS	ALS Environmental Laboratory
AO	Agreed Order
AST	Aboveground storage tank
ATSDR	Agency for Toxic Substances and Disease Registry
CFR	*Code of Federal Regulations*
EPA	United States Environmental Protection Agency
ft	Feet
HASP	Health and safety plan
IDEM	Indiana Department of Environmental Management
mg/kg	Milligram per kilogram
mg/L	Milligram per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OSC	On-Scene Coordinator
PAH	Polynuclear aromatic hydrocarbons
PCB	Polychlorinated biphenyl
PID	Photoionization detector
poly	Polyethylene
ppm	Part per million
RCRA	Resource Conservation and Recovery Act
RML	EPA Regional Removal Management Level
SCS	Sugar Creek Scrap
START	Superfund Technical Assessment and Response Team
TCLP	Toxicity Characteristic Leaching Procedure
TDD	Technical Direction Document
WESTON	Weston Solutions, Inc.
XRF	X-ray fluorescence

1. INTRODUCTION

The U.S. Environmental Protection Agency tasked the Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) with assisting in performing a site assessment at the former Sugar Creek Scrap (SCS) Site located at 1901 Prairieton Road in Terre Haute, Vigo County, IN (the Site; see **Figure 1-1**). Specifically, under Technical Direction Document (TDD) No. S05-0001-1302-008, WESTON START was directed to perform the following activities:

- Compile available Site information.
- Develop a site-specific health and safety plan (HASP) and a field sampling plan.
- Procure analytical laboratory services.
- Perform a site reconnaissance and surface soil screening.
- Collect surface soil and waste pile, surface water, and sediment samples.
- Provide photographic documentation of the Site (see **Appendix A**).
- Validate analytical data (see **Appendix B**).
- Evaluate potential threats posed by the Site to human health and the environment.
- Prepare and deliver this site assessment report.

The site assessment was performed to evaluate Site conditions and possible threats to human health, public welfare, and the environment posed by the Site in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Title 40 of the *Code of Federal Regulations* (CFR), Part 300.415(b)(2).

This site assessment report is organized into the following sections:

- **Introduction** – Provides a brief description of the objective and scope of the site assessment.
- **Site Background** – Details the Site description and history.
- **Site Assessment Activities** – Describes observations made and sampling methods and procedures used during the site assessment.
- **Analytical Results** – Details analytical results for samples collected during the site

assessment.

- **Threats to Human Health and the Environment** – Identifies conditions at the Site that warrant a removal action under the NCP.
- **Conclusions** – Provides a summary of the site assessment findings and conclusions made based on these findings.

Figures and tables are presented after Section 6 (Conclusions). **Appendix A** provides photographic documentation of Site conditions and activities during the site assessment. **Appendix B** provides the data validation report and validated analytical results for samples collected during the site assessment.

2. SITE BACKGROUND

This section discusses the Site description and history.

2.1 SITE DESCRIPTION

The Site is located at 1901 Prairieton Road in Terre Haute, Vigo County, IN. An additional address associated with the Site is 2005 Praireton Road. The Site's geographical coordinates are 39° 26' 52.982" North latitude and 86° 25' 19.56" West Longitude (see **Figure 1-1**). The Site is located in an industrial and commercial area approximately 1.5 miles southwest of downtown Terre Haute and the Indiana State University. The Site is bordered to the north by a wooded area and the former Wabash Environmental Technologies/International Minerals and Chemical Corporation; to the east, the Southwest Auto Wrecking salvage yard; to the south, a wooded area and the former International Paper Co and residential homes beyond; and to the west, the Wabash River. The Site occupies two parcels in the west portion of the city covering approximately 33 acres. No buildings or structures are located on-site. Low land areas and a sediment pond are commonly inundated when the Wabash River floods. Two one-lane gravel roads run through the site. The gravel roads are located above city storm sewer lines that carry storm water to the outfalls located on the west perimeter of the Site on the banks of the Wabash River (see **Figure 2-1**).

2.2 SITE HISTORY

Historical records dating back to 1903 show that the property was not being used or listed until 1958. On April 22, 1958, the property was owned by Terre Haute Compressed Steel and Salvage, Inc. The Site has changed owners numerous times since 1968. The City of Terre Haute is the listed current owner of the Site having acquired the property from Sugar Creek Scrap, Inc.

According to a Phase I Environmental Site Assessment Update, dated June 20, 2012, the Site has most notably been an auto salvage and scrap yard since the 1970s. A warranty deed recorded in August 1990 referenced the Site as having a "dump" on the property.

On April 13, 1998, the Indiana Department of Environmental Management (IDEM) issued a "Notice of Violation Letter" to SCS, Inc. after finding bags of induction furnace baghouse dust during three previous site inspections conducted in late 1997 and early 1998. The baghouse dust was located within a 0.55-acre area of the Site.

On April 20, 2000, an Agreed Order (AO) was reached between SCS, Inc. and IDEM. The AO indicated that while SCS, Inc. operated a scrap recycling business for "sorting, preparation, stockpiling, and eventual sale," they accepted waste material from Gartland Foundry. Gartland Foundry was a known generator of hazardous, special, and solid wastes and had transported foundry sand and induction furnace baghouse dust to the Site for disposal. As a result of the AO, an on-site landfill was created for the hazardous cadmium waste.

On August 9, 2007, an Environmental Disclosure Document was recorded for a portion of the Site related to a property transaction. The Environmental Disclosure Document indicated the Site was the location for petroleum storage, handling, or processing. While no records of direct petroleum-related activities have been found, it is generally accepted this designation was related to the auto salvage and scrap operations occurring at the Site.

On October 27, 2009, IDEM issued a "Notice of Violation Letter" to SCS, Inc., citing several violations, including unreported spills and releases, lack of storm water pollution prevention, potential refrigerant release to the atmosphere, poor recordkeeping of mercury switches, and

other housekeeping-related practices.

On February 3, 2013, IDEM verbally requested assistance from EPA to determine if the Site meets the criteria for a removal action in due to the coal, ash and cinders, slag, foundry sand and drums observed on site and reported in the Phase I Environmental Site Assessment Update.

3. SITE ASSESSMENT ACTIVITIES

On February 25, 2013, EPA and WESTON START conducted a site assessment to document Site conditions and evaluate the Site for a potential time-critical removal action. Site observations and sampling activities are discussed in the following sections. **Appendix A** provides photographic documentation of Site conditions and activities encountered during the site assessment.

3.1 SITE OBSERVATIONS

On February 25, 2013, EPA and WESTON START mobilized to the Site. Preliminary reconnaissance and air monitoring were conducted around the Site perimeter using a MultiRAE Pro multi-gas monitoring instrument that included a photoionization detector (PID) to measure for organic vapors and sensors to measure for carbon monoxide, lower explosive limit, hydrogen sulfide, and oxygen, and gamma radiation. No air monitoring readings exceeded background conditions during the preliminary reconnaissance or perimeter air monitoring activities. In addition, a Ludlum Model 19 Micro-R radiation meter was used to screen gamma radiation levels during the reconnaissance. No radiation levels exceeding background readings taken from areas outside the Site were documented.

During the site reconnaissance, WESTON START identified two low-lying areas located in the north and south portions of the Site that were separated by a levy. A second levy is located along the north perimeter of the Site, separating the Site from the adjacent property. A dirt access road located along the bank of the Wabash River connected the two levies. The levies are built up upon the City of Terra Haute storm sewer piping and are used for vehicle access throughout the Site. The piping terminates at two storm water outfalls located on the banks of the Wabash

River. Abandoned vehicles and equipment, debris, trailers, crushed cubes of vehicles and vehicle parts, and approximately 1,500 tires were located throughout the Site.

The north low land area includes a sediment pond and a wooded area. Clearing and grubbing activities were evident in the elevated area between the sediment pond and the banks of the Wabash River. However, the elevated area was still within the overall low land area. This elevated area was approximately 6 to 12 feet (ft) above the water surface of the sediment pond. Approximately 150 55-gallon drums were observed on the banks of the sediment pond, within the sediment pond water, and throughout the surrounding area. Many of the drums found along the levies were found to be empty. However, the grade of the south bank of the sediment pond was too steep to allow access to approximately 25 55-gallon drums (see **Appendix A**, **Photograph Number 4**).

An unlabeled drum containing an unknown solid material was located in the clearing and grubbing area west of the sediment pond. A crushed, polyethylene (poly) lined, 55-gallon drum labeled "Corrosive" was located along the banks of the Wabash River and found to be empty. Piles of ash, slab, and foundry sand were located along the south levy and within the clearing and grubbing area. An aboveground storage tank (AST), estimated at approximately 10,000 gallons, was observed in the northeast corner of the sediment pond (see **Appendix A**, **Photograph Number 5**). The AST was located approximately 10 ft from the bank of the sediment pond. Access could not be gained to the AST and subsequently the contents or volume could not be assessed during the site assessment. A pile of foundry sand was observed near the northwest corner of the site adjacent to the north levy. The foundry sand was red-orange in color and measured approximately 8 ft in diameter and 2 to 3 ft in height (see **Appendix A**, **Photograph Number 12**).

Vehicles and other equipment, including "yellow-iron," were observed along the raised levy between the north and south low land areas, as far as 200 ft into the Site from the east perimeter boundary. Approximately 25 empty drums were also observed in this portion of the levy. An ash pile was observed approximately 350 ft from the west end of the levy along the north side.

The south low land area consisted of trees, debris, and abandoned vehicles and parts. The area appeared to be saturated, and an area of freestanding water was observed. Encroachment from the salvage yard was also evident at the east perimeter near the south low land area. A salvaged school bus was noted in south low land area, approximately 150 ft from the east perimeter. Evidence of past storm water runoff was observed near the southwest corner of the salvage yard. Erosion from the runoff exposed the underlying sand in this area.

3.2 SAMPLING AND FIELD SCREENING ACTIVITIES

Sampling and field screening activities were conducted on February 25, 2013.

To evaluate if the Site poses imminent and substantial threats to the public health or welfare of the United States or the environment, WESTON START collected one sediment sample, one water sample, and ten samples from surface soil and surface waste piles. **Table 3-1** summarizes the investigative samples collected from the Site. Surface sampling locations included soil, ash, debris, slag, and/or foundry sand located on the ground surface. Sampling activities were conducted in Level D personal protective equipment in accordance with the approved site-specific HASP.

An initial screening of the ground surface for heavy metals was conducted at various locations throughout the Site using an Innov-X Aplha 4000 Series X-ray fluorescence (XRF) analyzer. The screening locations were determined based upon visual observation noted by either an EPA On-Scene Coordinator (OSC) or WESTON START. Locations with observed ash, slag, and foundry sand were flagged and screened with the XRF analyzer. Locations with elevated metal concentrations were flagged for subsequent screening and sampling. **Table 3-2** summarizes the XRF field screening results from the Site. A map showing a summary of the XRF readings can be found in **Figure 3-1**.

Fresh sampling gloves were donned before sampling activities began at each new sampling location, as necessary. Aluminum pans were used to collect grab samples from the surface soil. The soil samples were collected and screened with the XRF analyzer for metal concentrations before placement into the sample jars. Sediment, surface soil, and waste pile samples were

collected using a disposable poly scoops into 8-ounce, glass sample jars. Each sample is described in the following paragraphs. **Figure 3-2** shows the sampling location map. The maximum XRF screening values are reported from either the initial sample location screening or the material collected in the aluminum pan prior to being placed in the sampling jar.

Sample SCS-SD01-022513 was collected from sediment located near the northwest corner of the sediment pond. The sediment sample was collected within 3 ft of the shoreline of the sediment pond.

Sample SCS-SW01-022513 was collected from the surface water located at northwest corner of the sediment pond. The water depth at the sampling location was less than 6 inches.

Samples SCS-SS01-022513 and SCS-SS01DUP-022513 consisted of surface soil and black ash located in the north low land area west of the sediment pond. The XRF readings at the sample location showed maximum total concentrations for arsenic and lead at 1,045 and 14,871 part per million (ppm), respectively (Reading Number 10).

Sample SCS-SS02-022513 consisted of surface soil and black ash located in the north low land area west of the sediment pond. XRF readings at the sample location showed a maximum total concentration for lead at 11,619 ppm (Reading Number 13).

Sample SCS-SS03-022513 consisted of surface soil and black ash located in the north low land area northwest of the sediment pond. XRF readings at the sample location showed maximum total concentrations for arsenic, lead, and mercury at 20, 121, and 21 ppm, respectively (Reading Numbers 16 and 50).

Sample SCS-SS04-022513 consisted of surface soil and black ash located in the north low land area northwest of the sediment pond. XRF readings at the sample location showed maximum total concentrations for arsenic, lead, and mercury at 9, 39, and 44 ppm, respectively (Reading Numbers 20 and 51).

Sample SCS-SS05-022513 was a mixture of surface soil and slag located near the northwest corner of the sediment pond, approximately midway down the slope from the elevated area to the water surface. The sample was collected using a poly scoop and XRF readings showed maximum total arsenic and lead concentrations of 139 and 1,654 ppm, respectively (Reading Number 58).

Sample SCS-SS06-022513 was a mixture of surface soil and slag located in the elevated area, approximately midway between the sediment pond and the north perimeter of the Site. The sample was primarily slag that was crushed in the aluminum pan prior to being placed into the sample jar. The XRF reading from the slag and surrounding soil showed maximum total arsenic, lead, and mercury concentrations of 1,200, 701, and 4,634 ppm, respectively (Reading Number 29).

Sample SCS-SS07-022513 was collected from exposed subsurface soil located adjacent to the access road between the levies. Clearing and grubbing operations resulted in the exposure of the subsurface soil. The XRF reading showed a total lead concentration of 1,118 ppm (Reading Number 64).

Sample SCS-SS08-022513 was a mixture of surface soil and slag located on the ground near the northwest corner of the Site. The sample was located adjacent to the south side of the north levy. The XRF reading at the sample location showed maximum total concentrations for arsenic, lead, and mercury at 88, 85, and 175 ppm, respectively (Reading Number 67).

Sample SCS-SS09-022513 was collected from the surface of a foundry sand pile located along the south side of the north levy. The XRF reading at the sample location showed maximum total concentrations for arsenic, lead, and mercury at 19, 143, and 39 ppm, respectively (Reading Number 70).

All samples were submitted under chain of custody to ALS Environmental Laboratory (ALS) in Holland, MI, under analytical TDD No. S05-0001-1302-009. The samples were analyzed for one or more of the following parameters: polynuclear aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCB), total pesticides, total Resource Conservation and Recovery Act

(RCRA) metals, Toxicity Characteristic Leaching Procedure (TCLP) metals, and hexavalent chromium. Section 4 details the analytical results.

WESTON START used a Trimble GeoXH unit to mark the global positioning system coordinates of the significant XRF screening locations. WESTON START also used the Trimble GeoXH unit to mark the coordinates of the sediment, water, and surface samples collected during the site assessment.

4. ANALYTICAL RESULTS

WESTON START collected one sediment sample, one surface water sample, and ten surface soil and waste pile samples from the Site for analysis by ALS. Sediment sample SCS-SD01-022513 and samples SCS-SS01-022513 through SCS-SS09-022513 were analyzed for total RCRA metals using EPA Methods 6010B and 7471A and TCLP RCRA metals using EPA Methods 1311, 6010B, and 7470A. Samples SCS-SS05-022513 through SCS-SS07-022513 were analyzed for total hexavalent chromium using EPA Method 7196A. Surface water sample SCS-SW01-022513 was analyzed for total PAHs using EPA Method 8270 with selective ion monitoring, total PCBs using EPA Method 8082, and total pesticides using EPA Method 8081.

Table 4-1 summarizes the analytical results. **Appendix B** provides the data validation reports and validated laboratory analytical results for the samples. **Figure 4-1** provides the summary map for the total lead analytical results. **Figure 4-2** provides the summary map for the TCLP lead analytical results.

Analytical results for toxicity (TCLP metals) were compared to the hazardous waste criteria outlined in 40 CFR, Part 261, Subpart C. Analytical results for total RCRA metals were compared to EPA's industrial Regional Removal Management Levels (RML). Laboratory analytical results exceeding the hazardous waste criteria and EPA's industrial RMLs are summarized in the following sections.

Total RCRA Metals

Surficial samples SCS-SS01-022513, SCS-SS01DUP-022513, SCS-SS02-022513, SCS-SS05-022513, and SCS-SS07-022513 contained lead concentrations of 8,600; 9,400; 8,300; 2,500; and 3,000 milligrams per kilogram (mg/kg), respectively, which exceeded the EPA RML of 800 mg/kg for lead in industrial.

TCLP RCRA Metals

Surficial samples SCS-SS01-022513, SCS-SS01DUP-022513, and SCS-SS02-022513 contained TCLP lead at concentrations of 110, 100, and 58 milligram per liter (mg/L), respectively. The TCLP lead concentrations for these three samples exceeded the TCLP lead regulatory level of 5.0 mg/L, which satisfies the 40 CFR 261.24 criterion for toxic hazardous waste (waste code D008).

Hexavalent Chromium

Hexavalent chromium was not detected in samples SCS-SS05-022513 through SCS-SS06-022513.

Total PCBs

PCBs were not detected in surface water sample SCS-SW01-022513. Therefore, in accordance with 40 CFR Part 761.3, the surface water sample does not represent a material that meets the definition of a PCB-containing waste.

Total PAHs and Pesticides

PAHs and pesticides were not detected in surface water sample SCS-SW01-022513.

5. THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Factors to be considered when determining the appropriateness of a potential removal action at a site are delineated in the NCP at 40 CFR 300.415(b)(2). The factors applicable to the Site are summarized as follows:

- **Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances or pollutants or contaminants.**

During the site assessment, the OSCs and WESTON START documented numerous debris piles, drums, vehicle parts, tires, and one large AST. Slag, foundry sand, and ash piles were observed throughout the Site. A preliminary screening of surface soil, slag, sand, and ash using an XRF detector indicated the presence of high concentrations of metals, including lead.

Laboratory analysis confirmed the presence of lead in surface soil and waste pile samples. Five samples (SCS-SS01-022513, SCS-SS01Dup-022513, SCS-SS02-022513, SCS-SS05-022513, and SCS-SS07-022513) contained total lead concentrations above the EPA RML, with concentrations ranging from 2,500 to 9,400 mg/kg.

A total of three surface soil and waste pile samples (SCS-SS01-022513, SCS-SS01Dup-022513, and SCS-SS02-022513) contained TCLP lead concentrations ranging from 58 to 110 mg/L. These concentrations are greater than the TCLP lead regulatory level of 5.0 mg/L, which satisfies the 40 C.F.R 261.24 toxicity criteria for hazardous waste (D008).

The toxicological effects of lead have been studied by the Agency for Toxic Substances and Disease Registry (ATSDR). Toxicological information is provided as follows:

> *Lead* – The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in the body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people, and can cause anemia. Exposure to high-lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production.

The Site was unsecure and open to trespassing because of unrestricted access along the Wabash River and uncontrolled access from adjacent properties. The Wabash River is located along the west perimeter of the Site. Commercial facilities are located adjacent to the north, east, and south perimeters of the Site. Encroachment by the Southwest Auto Wrecking salvage yard on the Site property was observed during the site assessment. Further encroachment activities may expose workers to Site-related contamination.

Hazardous substances are present in soil and waste piles. Release mechanisms from these sources include fugitive dust generation from soil or waste piles to air; contaminated surface soil or waste pile runoff and overland flow to surface water, in particular the Wabash River; leaching of surface soil and waste to groundwater and deeper soils; and tracking of contaminated surface soil or waste. Possible exposure routes for hazardous substances include dermal contact with contaminated soil or waste piles; inhalation or accidental ingestion of fugitive dust; and direct contact with potentially impacted surface water or sediment in the Wabash River. Potential human

receptors include current and future site workers, site visitors, site trespassers, and recreational users of the Wabash River.

- **Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release.**

  During the site assessment, WESTON START observed and documented the presence of approximately 150 55-gallon drums and containers throughout the Site. Many of the drums and containers were corroded and found to be empty. Approximately 25 drums were located along the south bank of the retention pond. These drums could not be evaluated due to the extreme slope of the bank. A large AST, estimated at 10,000 gallons, was located in the northeast corner of the retention pond and approximately 10 to 15 ft into the water (see **Figure 2-1**). Access could not be gained into the AST due to the distance from the shore. The contents of these drums and the AST are unknown. The close proximity of the Site to residential areas and commercial businesses greatly increases potential threats to human health and the environment if a release occurs.

- **High levels of hazardous substances or pollutants or contaminants (in soils at or near the surface) that may migrate.**

  Site assessment analytical results document high levels of hazardous substances in soils at or near the surface. Three soil samples (SCS-SS01-022513, SCS-SS01Dup-022513, and SCS-SS02-022513) contained TCLP lead at concentrations exceeding the regulatory limit. Sanitary sewer piping and combined sewer overflows are located on-site and discharge to the Wabash River, which is along the west perimeter of the Site. Sewer piping may pose a preference pathway for Site-related contamination to reach the Wabash River. Based on the site assessment sampling results and utility corridors located throughout the Site, hazardous substances in soils at or near the surface pose a threat of release.

- **Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.**

  Western Indiana has a humid continental climate, with hot summers and typically no dry season. It receives a substantial amount of precipitation during spring, and winter temperatures are normally at or below freezing, with regular snowfall. On average, western Indiana receives approximately 44 inches of precipitation annually. Average temperatures range from 27 to 38°F in the winter to 68 to 78°F in the summer. Excessive late-winter rainfall has caused widespread floods in Indiana.

  Weather conditions could cause hazardous substances to migrate or be released. High winds could cause dispersion of surface particulate matter. Additionally, heavy rains could cause runoff or overland flow of soil or waste to the Wabash River, thereby causing migration through surface water and sediment.

- **The availability of other appropriate federal or state response mechanisms to respond to the release.**

  In an e-mail dated January 28, 2013, the Indiana Finance Authority, Brownfields Section, at IDEM, asked EPA to evaluate the site. The Indiana Brownfields Program is not able to provide resources to immediately mitigate the threat of release.

  In an e-mail dated January 29, 2013, the City of Terre Haute provided additional information about the site to EPA. The City is not able to provide resources to immediately mitigate the threat of release.

6. CONCLUSIONS

The Site assessment consisted of a site reconnaissance and a field sampling event, both conducted on February 25, 2013. During the site assessment, WESTON START observed and documented the presence of approximately 150 55-gallon drums; numerous slag, foundry sand, ash and debris piles; and tires, heavy equipment, vehicles, and vehicle parts throughout the Site. Many of the drums and containers were deteriorated and empty. A large AST, estimated at 10,000 gallons, was located in the northeast corner of the retention pond and approximately 10 to 15 ft into the water. WESTON START collected one sediment sample, one surface water sample, and ten surficial samples from the Site. Analytical results document the on-site presence of lead analytical results exceeding EPA's industrial RMLs and hazardous waste criteria for TCLP Lead (waste code D008).

Based on the analytical results and Site conditions observed during the site reconnaissance and site assessment, the Site meets five of the criteria for a removal action pursuant to 40 CFR 300.415(b)(2). Therefore, the Site poses imminent and substantial threats to the public health or welfare of the United States or the environment.

FIGURES

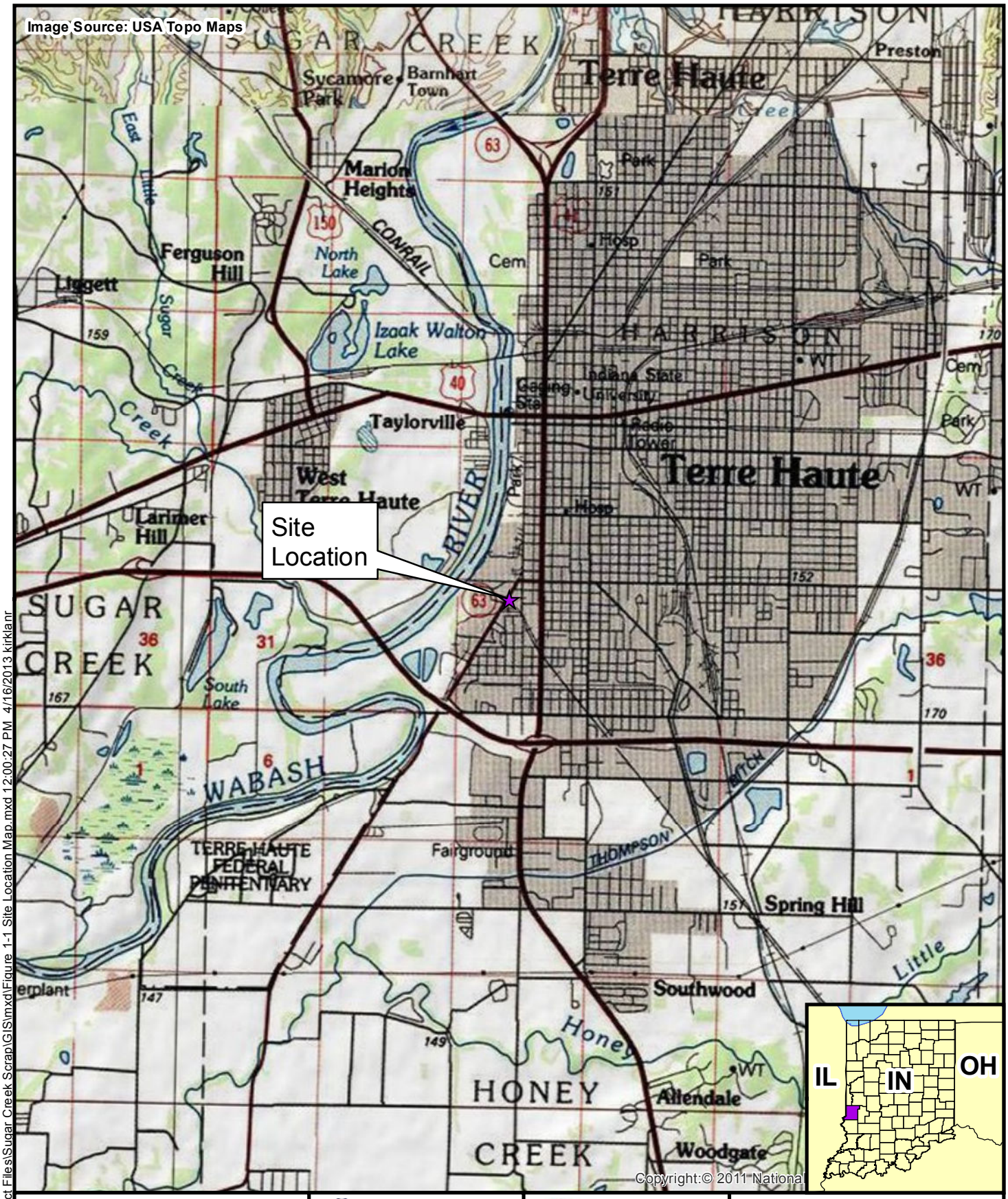
Image Source: USA Topo Maps
Site Location
Terre Haute
Preston
Sycamore Park
Barnhart Town
Marion Heights
Ferguson Hill
Liggett
North Lake
CONRAIL
Izaak Walton Lake
Taylorville
West Terre Haute
Larimer Hill
RIVER
Indiana State University
Gasing Site
Hosp
Park
Cem
WT
SUGAR CREEK
HARRISON
South Lake
WABASH
TERRE HAUTE FEDERAL PENITENTIARY
Fairground
THOMPSON
Spring Hill
Southwood
Honey
HONEY CREEK
Allendale
Woodgate
Little
Sugar Creek
East Little
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Miles
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Prepared for:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-1302-008
DCN: 2096-2A-BDCD
Prepared By:
WESTON SOLUTIONS, INC
4710-A Interstate Drive
Cincinnati, Ohio 45246
Figure 1-1
Site Location Map
Sugar Creek Scrap Site
Terre Haute, Vigo County, Indiana
FILE: C:\START Project Files\Sugar Creek Scrap\GIS\mxd\Figure 1-1 Site Location Map.mxd 12:00:27 PM 4/16/2013 kirklanr

FILE: C:\START Project Files\Sugar Creek Scrap\GIS\mxd\Figure 2-1 Site Layout Map.mxd 11:05:11 AM 4/25/2013 kirklanr

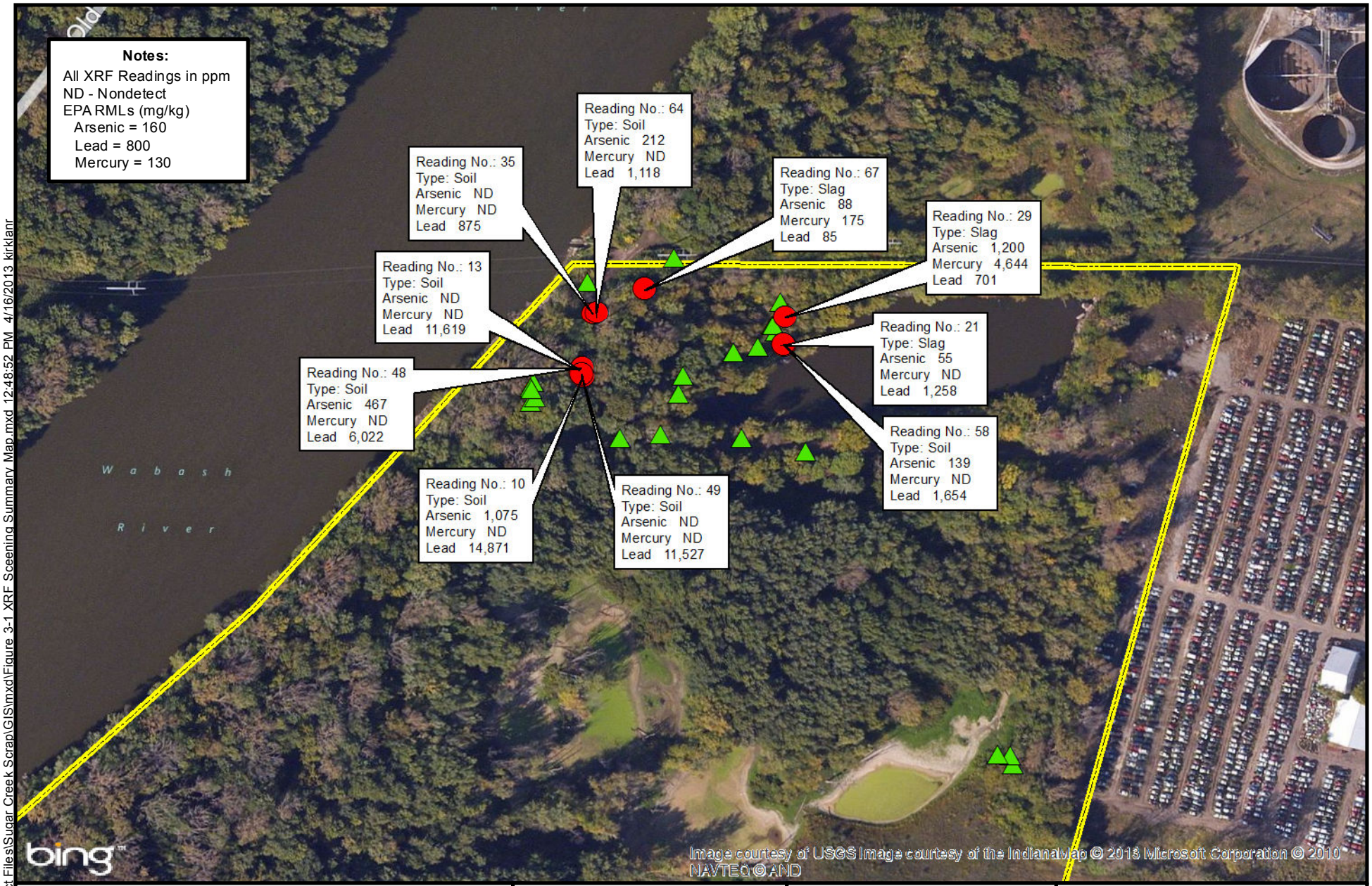
Prepared for:
U.S. EPA REGION V

Contract No.: EP-S5-06-04
TDD: S05-0001-1302-008
DCN: 2096-2A-BDCD

Prepared By:
WESTON SOLUTIONS, INC

4710-A Interstate Drive
Cincinnati, Ohio 45246

Figure 2-1
Site Layout Map
Sugar Creek Scrap Site
Terre Haute, Vigo County, Indiana



FILE: C:\START Project Files\Sugar Creek Scrap\GIS\mxd\Figure 3-1 XRF Screening Summary Map.mxd 12:48:52 PM 4/16/2013 kirklanr

Legend

- XRF Reading Above Established EPA RML
- XRF Reading Below Established EPA RML
- Site Boundary

0 225 Feet

N

Prepared for:
U.S. EPA REGION V

Contract No.: EP-S5-06-04
TDD: S05-0001-1302-008
DCN: 2096-2A-BDCD

Prepared By:
WESTON SOLUTIONS, INC

4710-A Interstate Drive
Cincinnati, Ohio 45246

Figure 3-1
XRF Screening Summary Map
Sugar Creek Scrap Site
Terre Haute, Vigo County, Indiana

Legend

Sampling Location Type

- Sediment
- Solid
- Water
- Site Boundary

0 100 Feet

N

Prepared for:
U.S. EPA REGION V

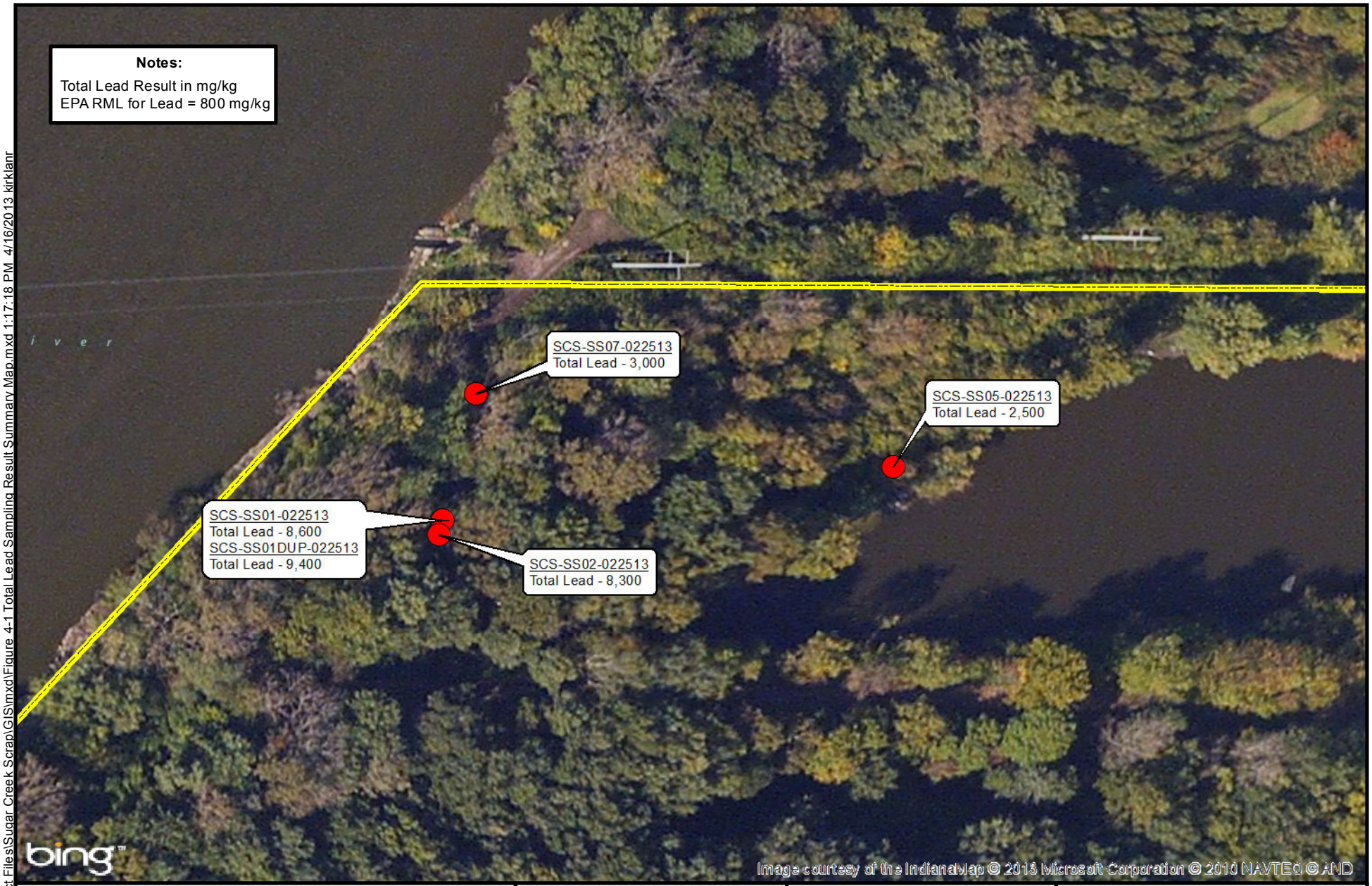
Contract No.: EP-S5-06-04
TDD: S05-0001-1302-008
DCN: 2096-2A-BDCD

Prepared By:
WESTON SOLUTIONS, INC

4710-A Interstate Drive
Cincinnati, Ohio 45246

Figure 3-2
Sample Location Summary Map
Sugar Creek Scrap Site
Terre Haute, Vigo County, Indiana

FILE: C:\START Project Files\Sugar Creek Scrap\GIS\mxd\Figure 3-2 Sample Location Summary Map.mxd 5:15:14 PM 4/15/2013 kirklanr



FILE: C:\START Project Files\Sugar Creek Scrap\GIS\mxd\Figure 4-1 Total Lead Sampling Result Summary Map.mxd 1:17:18 PM 4/16/2013 kirklanr

Legend

Sampling Location with EPA RML Exceedance for Lead

Site Boundary

0 100 Feet

N

Prepared for:
U.S. EPA REGION V

Contract No.: EP-S5-06-04
TDD: S05-0001-1302-008
DCN: 2096-2A-BDCD

Prepared By:
WESTON SOLUTIONS, INC

4710-A Interstate Drive
Cincinnati, Ohio 45246

Figure 4-1
Total Lead Sampling Result
Summary Map
Sugar Creek Scrap Site
Terre Haute, Vigo County, Indiana

FILE: C:\START Project Files\Sugar Creek Scrap\GIS\mxd\Figure 4-2 TCLP Lead Sampling Result Summary Map.mxd 1:22:07 PM 4/16/2013 kirklanr

Legend

- Sampling Location with RCRA Exceedance for Lead
- Site Boundary

N

0 100 Feet

Prepared for:
U.S. EPA REGION V

Contract No.: EP-S5-06-04
TDD: S05-0001-1302-008
DCN: 2096-2A-BDCD

Prepared By:
WESTON SOLUTIONS, INC

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Figure 4-2
TCLP Lead Sampling Result
Summary Map
Sugar Creek Scrap Site
Terre Haute, Vigo County, Indiana

TABLES

Table 3-1
Sampling Location Summary
Sugar Creek Scrap Site
Terre Haute, Vigo County, Indiana

Field Sample ID No.	Sampling Date	Sample Type	Analytical Parameter(s)
SCS-SS01-022513	2/25/13	Grab, solid field sample containing soil and black ash	TCLP RCRA and Total RCRA Metals
SCS-SS01Dup-022513	2/25/13	Field duplicate, grab, solid field sample containing soil and	TCLP RCRA and Total RCRA Metals
SCS-SS02-022513	2/25/13	Grab, solid field sample containing soil and black ash	TCLP RCRA and Total RCRA Metals
SCS-SS03-022513	2/25/13	Grab, solid field sample containing soil and black ash	TCLP RCRA and Total RCRA Metals
SCS-SS04-022513	2/25/13	Grab, solid field sample containing soil and black ash	TCLP RCRA and Total RCRA Metals
SCS-SS05-022513	2/25/13	Grab, solid field sample containing soil and slag	TCLP RCRA, Total RCRA Metals, and Hexavalent Chromium
SCS-SS06-022513	2/25/13	Grab, solid field sample containing soil and slag	TCLP RCRA, Total RCRA Metals, and Hexavalent Chromium
SCS-SS07-022513	2/25/13	Grab, solid field sample containing exposed subsurface soil	TCLP RCRA, Total RCRA Metals, and Hexavalent Chromium
SCS-SS08-022513	2/25/13	Grab, solid field sample containing soil and slag	TCLP RCRA and Total RCRA Metals
SCS-SS09-022513	2/25/13	Grab, solid field sample containing foundry sand	TCLP RCRA and Total RCRA Metals
SCS-SD01-022513	2/25/13	Grab, sediment field sample	TCLP RCRA and Total RCRA Metals
SCS-SW01-022513	2/25/13	Grab, surface water field sample	Total PCBs, Pesticides, and PAHs

Notes:
ID = Identification
PAH = Polynuclear aromatic hydrocarbon
PCB = Polychlorinated biphenyl
RCRA = Resource Conservation and Recovery Act
TCLP = Toxicity Characteristic Leaching Procedure
VOC = Volatile organic compound

Table 3-2
XRF Field Screening Results Summary
Sugar Creek Scrap Site
Terre Haute, Vigo County, Indiana

Sample Number	Total Arsenic (in ppm)	Total Lead (in ppm)	Total Mercury (in ppm)	Associated Sample ID
1	NA	NA	NA	Standardization
2	ND	ND	ND	NA
3	ND	ND	ND	
4	40	753	ND	
5	ND	210	ND	
6	ND	228	ND	
7	ND	102	ND	
8	ND	238	ND	
9	ND	**13,230**	ND	SCS-SS01-022513 and SCS-SS01DUP-022513
10	**1,045**	**14,871**	ND	
11	**598**	**14,763**	ND	
12	**875**	**14,153**	ND	
13	ND	**11,619**	ND	SCS-SS02-022513
14	ND	344	ND	NA
15	ND	123	ND	
16	20	121	20	SCS-SS03-022513
17	ND	627	ND	NA
18	ND	ND	ND	
19	ND	362	ND	
20	9	39	25	SCS-SS04-022513
21	55	**1,258**	ND	SCS-SS05-022513
22	10	31	ND	
23	ND	38	ND	NA
24	ND	83	ND	
25	ND	616	ND	
26	ND	17	ND	
27	ND	25	ND	
28	ND	97	ND	
29	**1,200**	701	**4,634**	SCS-SS06-022513
30	NA	NA	NA	Standardization
31	ND	34	ND	NA
32	ND	53	ND	
33	ND	27	ND	
34	ND	765	ND	
35	ND	**875**	ND	SCS-SS07-022513
36	13	15	78	NA
37	28	231	31	
38	ND	ND	ND	
39	ND	246	ND	
40	20	186	ND	
41	ND	94	ND	
42	ND	167	ND	
43	ND	224	ND	

Table 3-2
XRF Field Screening Results Summary
Sugar Creek Scrap Site
Terre Haute, Vigo County, Indiana

Sample Number	Total Arsenic (in ppm)	Total Lead (in ppm)	Total Mercury (in ppm)	Associated Sample ID
44	ND	135	ND	NA
45	ND	53	ND	
46	ND	149	ND	
47	ND	230	24	
48	**467**	**6,022**	ND	SCS-SS02-022513
49	ND	**11,527**	ND	SCS-SS01-022513 and SCS-SS01DUP-022513
50	ND	104	21	SCS-SS03-022513
51	ND	22	44	SCS-SS04-022513
52	19	174	ND	NA
53	ND	568	ND	
54	ND	**1,288**	ND	SCS-SS05-022513
55	ND	**1,397**	ND	
56	ND	84	ND	
57	ND	301	ND	
58	139	**1,654**	ND	
59	ND	65	ND	NA
60	68	328	ND	
61	ND	ND	ND	
62	31	107	125	SCS-SS06-022513
63	ND	129	ND	NA
64	ND	**1,118**	ND	SCS-SS07-022513
65	ND	672	ND	NA
66	ND	ND	ND	
67	88	85	**175**	SCS-SS08-022513
68	ND	ND	ND	NA
69	ND	ND	ND	
70	19	143	39	SCS-SS09-022513
71	ND	ND	ND	NA

Notes:

Shaded and bolded results exceed the EPA RML, with 10^{-4} risk level for carcinogens or a Hazard quotient (HQ) of 3 for non-carcinogens (Industrial Soil), of 160, 300 and 130 ppm for arsenic, lead and mercury, respectively

ID = Idenitification
NA = Not applicable
ND = Not detected at XRF minimum detection levels
ppm = Part per million
RML = Removal Management Level
EPA = United States Environmental Protection Agency
XRF = X-ray fluorescence

Table 4-1
Summary of Sample Analytical Results
Sugar Creek Scrap Site
Terre Haute, Vigo County, Indiana

Chemical	Criteria	Sampling Date	2/25/2013	2/25/2013	2/25/2013	2/25/2013	2/25/2013	2/25/2013	2/25/2013	2/25/2013	2/25/2013	2/25/2013	2/25/2013	2/25/2013
		Location	SS-01	SS-01	SS-02	SS-03	SS-04	SS-05	SS-06	SS-07	SS-08	SS-09	SD-01	SW-01
		Field Sample ID	SCS-SS01-022513	SCS-SS01Dup-022513	SCS-SS02-022513	SCS-SS03-022513	SCS-SS04-022513	SCS-SS05-022513	SCS-SS06-022513	SCS-SS07-022513	SCS-SS08-022513	SCS-SS09-022513	SCS-SD01-022513	SCS-SW01-022513
		Unit												
Total RCRA Metals[1]														
Arsenic	160	mg/Kg	8.7	12	15	8.2	7.6	20	ND (1.8)	9.7	6.2	ND (0.39)	9.3	NA
Barium	570,000	mg/Kg	420	450	440	80	120	740	50	230	37	4.1	87	NA
Cadmium	2,400	mg/Kg	6.6	5.5	7.5	1.3	1.4	11	ND (0.73)	12	0.43	ND (0.16)	1.4	NA
Chromium	4600000 [a]	mg/Kg	28	32	46	20	10	260	18	590	3.6	9.0	12	NA
Hexavalent Chromium	560	mg/Kg	NA	NA	NA	NA	NA	ND (0.66)	ND (0.58)	ND (0.74)	NA	NA	NA	NA
Lead	800	mg/Kg	**8,600**	**9,400**	**8,300**	120	97	**2,500**	62	**3,000**	56	5.8	160	NA
Mercury	130	mg/Kg	0.068	0.067	0.063	0.19	0.20	0.11	0.021	1.5	0.019	ND (0.015)	0.10	NA
Selenium	15,000	mg/Kg	ND (2.7)	ND (2.6)	ND (2.6)	ND (2.9)	ND (3.2)	ND (2.5)	ND (1.8)	3.7	0.54	ND (0.39)	1.1	NA
Silver	15,000	mg/Kg	ND (2.7)	ND (2.6)	2.9	ND (2.9)	3.4	ND (2.5)	ND (1.8)	11	ND (0.52)	ND (0.39)	2.1	NA
TCLP RCRA Metals[2]														
Arsenic	5	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	NA
Barium	100	mg/L	2.0	1.8	2.1	0.26	0.91	2.0	0.098	1.7	0.13	0.089	0.55	NA
Cadmium	1	mg/L	0.035	0.035	0.051	0.0025	0.0056	0.042	ND (0.0020)	0.039	ND (0.0020)	ND (0.0020)	0.0030	NA
Chromium	5	mg/L	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	0.12	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	NA
Lead	5	mg/L	**110**	**100**	**58**	0.048	0.12	0.29	0.30	0.75	0.21	0.012	0.028	NA
Mercury	0.2	mg/L	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	NA
Selenium	1	mg/L	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	NA
Silver	5	mg/L	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	NA
PCBs	-	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Pesticides	-	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
PAHs	-	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND

Notes:

Bold shaded results exceed criteria value

[1] RML used: 10^{-4} risk level for carcinogens or a Hazard Auotient (HQ) of 3 for non-carcinogens (Industrial Soil)

[2] Regulatory limits in 40 CFR, Part 261.24, Subpart C

[a] = Standard for Total Chromium not available, Chromium (III) used

ID = Identification

NA = Not applicable/not analyzed

ND = Not detected above corresponding reporting limit in paraenthesis

EPA = United States Environmental Protection Agency

mg/Kg = miligram per kilogram

mg/L = miligram per Liter

CFR = *Code of Federal Regulations*

RCRA = Resource Conservation and Recovery Act

RML = Removal Management Level

TCLP = Toxicity Charateristic Leaching Procedure

APPENDIX A
PHOTOGRAPHIC DOCUMENTATION

Site: Sugar Creek Scrap Site
Photograph No.: 1 **Date**: 02/25/2013
Direction: West **Photographer**: Randy Kirkland
Subject: EPA and START beginning site assessment activities

Site: Sugar Creek Scrap Site
Photograph No.: 2 **Date**: 02/25/2013
Direction: South **Photographer**: Randy Kirkland
Subject: Scrap metal, yellow-iron, and machinery present onsite in the encroachment area along the levy

Site: Sugar Creek Scrap Site
Photograph No.: 3 **Date**: 02/25/2013
Direction: South **Photographer**: Randy Kirkland
Subject: South low land area with freestanding water

Site: Sugar Creek Scrap Site
Photograph No.: 4 **Date**: 02/25/2013
Direction: North **Photographer**: Randy Kirkland
Subject: Abandoned drums along the south bank of the sediment pond

Site: Sugar Creek Scrap Site
Photograph No.: 5 **Date**: 02/25/2013
Direction: Northeast **Photographer**: Randy Kirkland
Subject: Abandoned above ground storage tank in northeast corner of the sediment pond

Site: Sugar Creek Scrap Site
Photograph No.: 6 **Date**: 02/25/2013
Direction: South **Photographer**: Randy Kirkland
Subject: Abandoned empty drum on north bank of the sediment pond

Site: Sugar Creek Scrap Site
Photograph No.: 7 **Date**: 02/25/2013
Direction: North **Photographer**: Randy Kirkland
Subject: EPA OSC Lam, City of Terre Haute Pat Martin, and WESTON START marking sampling locations with Trimble GeoXH Unit.

Site: Sugar Creek Scrap Site
Photograph No.: 8 **Date**: 02/25/2013
Direction: Down **Photographer**: Greg Roussos
Subject: START using an XRF analyzer to screen the ground surface for total metal concentrations

Site: Sugar Creek Scrap Site
Photograph No.: 9 **Date**: 02/25/2013
Direction: Down **Photographer**: Greg Roussos
Subject: Surface soil and ash sampling location for samples SCS-SS01-022513 and SCS-SS01DUP-022513

Site: Sugar Creek Scrap Site
Photograph No.: 10 **Date**: 02/25/2013
Direction: Down **Photographer**: Randy Kirkland
Subject: Surface soil and ash sampling location for sample SCS-SS03-022513

Site: Sugar Creek Scrap Site
Photograph No.: 11 **Date**: 02/25/2013
Direction: Down **Photographer**: Randy Kirkland
Subject: Exposed soil sampling location for sample SCS-SS07-022513

Site: Sugar Creek Scrap Site
Photograph No.: 12 **Date**: 02/25/2013
Direction: Down **Photographer**: Randy Kirkland
Subject: START using an XRF analyzer to screen the surface of a pile of foundry sand for total metal concentrations

APPENDIX B
DATA VALIDATION REPORT AND VALIDATED ANALYTICAL RESULTS

SUGAR CREEK SCRAP
TERRE HAUTE, VIGO COUNTY, INDIANA
DATA VALIDATION REPORT

Date: March 11, 2013
Laboratory: ALS Environmental (ALS), Holland, Michigan
Laboratory Project #: 1302776
Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (WESTON®) Superfund Technical Assessment and Response Team (START)
Weston Analytical Work Order #/TDD #: 20405.016.001.2097.00/S05-0001-1302-009

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for ten soil, one sediment and one surface water samples collected for the Sugar Creek Scrap Site that were analyzed for the following parameters and U.S. Environmental Protection Agency (U.S. EPA) methods:

- Polynuclear Aromatic Hydrocarbons (PAH) by SW-846 Method 8270 SIM
- Polychlorinated Biphenyls (PCB) by SW-846 Method 8082
- Pesticides by SW-846 Method 8081
- Metals by SW-846 Methods 6020A and 7471
- Toxicity Characteristic Leaching Procedure (TCLP) TCLP Metals by SW-846 Methods 1311, 6020A, and 7470A
- Hexavalent Chromium by SW-846 Method 7196A

A level II data package was requested from ALS. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidance for Superfund Organic Methods Data Review" dated June 2008 and "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2010. The Attachment contains the results summary sheets with the hand-written qualifiers applied during data validation.

Data Validation Report
Sugar Creek Scrap Site
ALS Environmental
Laboratory Project #: 1302776

PAHs by SW-846 METHOD 8270 SIM

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Extracted	Date Analyzed
SCS-SW01-022513	1302776-23	Water	2/25/2013	2/28/2013	3/1/2013

2. Holding Times

The sample was analyzed within the required holding time limit of 7 days from sample collection to extraction and 40 days from extraction to analysis.

3. Blanks

A method blank was analyzed with the PAH analysis. The method blank was free of target compound contamination above the reporting limit.

4. Surrogate Results

The surrogate recovery results were within the laboratory-established quality control (QC) limits.

5. Laboratory Control Sample (LCS) Results

The LCS recoveries were within laboratory QC limits.

6. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

A site-specific MS and MSD were not analyzed. No qualifications were applied.

7. Overall Assessment

The PAH data are acceptable for use based on the information received.

Data Validation Report
Sugar Creek Scrap Site
ALS Environmental
Laboratory Project #: 1302776

PCBs BY U.S. EPA SW-846 METHOD 8082

1. Samples

The following table summarizes the samples for which this data validation was conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
SCS-SW01-022513	1302776-23	Water	2/25/2013	2/28/2013	3/1/2013

2. Holding Times

The sample was analyzed within the holding time limit of 7 days from sample collection to extraction and 40 days from extraction to analysis.

3. Blanks

A method blank was analyzed with the PCB analyses. The method blank was free of target compound contamination above the reporting limit.

4. Surrogates

The surrogate recoveries were within QC limits.

5. LCS Results

The LCS recoveries were within the laboratory-established QC limits.

6. MS and MSD Results

A site-specific MS and MSD were not analyzed. No qualifications are required.

7. Overall Assessment

The PCB data are acceptable for use based on the information received.

Data Validation Report
Sugar Creek Scrap Site
ALS Environmental
Laboratory Project #: 1302776

PESTICIDES BY U.S. EPA SW-846 METHOD 8081

1. Samples

The following table summarizes the samples for which this data validation was conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
SCS-SW01-022513	1302776-23	Water	2/25/2013	2/28/2013	3/4/2013

2. Holding Times

The sample was analyzed within the holding time limit of 7 days from sample collection to extraction and 40 days from extraction to analysis.

3. Blanks

A method blank was analyzed with the pesticide analyses. The method blank was free of target compound contamination above the reporting limit.

4. Surrogates

The surrogate recoveries were within QC limits.

5. LCS Results

The LCS recoveries were within the laboratory-established QC limits except for alpha-BHC which was detected slightly low. No qualification was applied for this minor discrepancy.

6. MS and MSD Results

A site-specific MS and MSD were not analyzed. No qualifications are required.

7. Overall Assessment

The pesticide data are acceptable for use based on the information received.

Data Validation Report
Sugar Creek Scrap Site
ALS Environmental
Laboratory Project #: 1302776

TOTAL METALS BY SW-846 METHODS 6020A AND 7471

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
SCS-SS01-022513	1302776-01	Soil	2/25/2013	3/1/2013 – 3/4/2013
SCS-SS02-022513	1302776-03	Soil	2/25/2013	3/1/2013 – 3/4/2013
SCS-SS01Dup-022513	1302776-05	Soil	2/25/2013	3/1/2013 – 3/4/2013
SCS-SS03-022513	1302776-07	Soil	2/25/2013	3/1/2013 – 3/4/2013
SCS-SS04-022513	1302776-09	Soil	2/25/2013	3/1/2013 – 3/4/2013
SCS-SS05-022513	1302776-11	Soil	2/25/2013	3/1/2013 – 3/4/2013
SCS-SS06-022513	1302776-13	Soil	2/25/2013	3/1/2013 – 3/4/2013
SCS-SS07-022513	1302776-15	Soil	2/25/2013	3/2/2013 – 3/4/2013
SCS-SS08-022513	1302776-17	Soil	2/25/2013	3/2/2013 – 3/4/2013
SCS-SS09-022513	1302776-19	Soil	2/25/2013	3/2/2013 – 3/4/2013
SCS-SD01-022513	1302776-21	Sediment	2/25/2013	3/2/2013 – 3/4/2013

2. Holding Times

The samples were analyzed within the required holding time limit of 28 days from sample collection to analysis for mercury and 180 days from sample collection to analysis for all other metals.

3. Blank Results

Method blanks were analyzed with the metals analysis. The blanks were free of target analyte contamination above the reporting limits. Barium and lead were detected below the reporting limits in the method blank; however, sample concentrations were much greater and no qualification was necessary.

4. LCS Results

The LCS recoveries were within the laboratory-established QC limits.

5. MS and MSD Results

A site-specific MS and MSD were not analyzed. For the MS and MSDs that were analyzed, the recoveries and RPDs were acceptable.

6. Field Duplicate Results

Sample SCS-SS01Dup-022513 is a field duplicate of sample SCS-SS01-022513. The RPDs between the two samples were less than a standard QC limit of 50 percent which is acceptable.

7. Overall Assessment

The metals data are acceptable for use based on the information received.

TCLP METALS BY SW-846 METHODS 1311, 6020A, AND 7470A

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
SCS-SS01-022513	1302776-01	Soil	2/25/2013	2/28/2013 – 3/4/2013
SCS-SS02-022513	1302776-03	Soil	2/25/2013	2/28/2013 – 3/4/2013
SCS-SS01Dup-022513	1302776-05	Soil	2/25/2013	2/28/2013 – 3/4/2013
SCS-SS03-022513	1302776-07	Soil	2/25/2013	2/28/2013 – 3/4/2013
SCS-SS04-022513	1302776-09	Soil	2/25/2013	2/28/2013 – 3/4/2013
SCS-SS05-022513	1302776-11	Soil	2/25/2013	2/28/2013 – 3/4/2013
SCS-SS06-022513	1302776-13	Soil	2/25/2013	2/28/2013 – 3/4/2013
SCS-SS07-022513	1302776-15	Soil	2/25/2013	2/28/2013 – 3/4/2013
SCS-SS08-022513	1302776-17	Soil	2/25/2013	2/28/2013 – 3/4/2013
SCS-SS09-022513	1302776-19	Soil	2/25/2013	2/28/2013 – 3/4/2013
SCS-SD01-022513	1302776-21	Sediment	2/25/2013	2/28/2013 – 3/4/2013

2. Holding Times

The samples were analyzed within the required holding time limit of 28 days from sample collection to analysis for mercury and 180 days from sample collection to analysis for all other metals.

3. Blank Results

Method blanks were analyzed with the TCLP metals analysis. The blanks were free of target analyte contamination above the reporting limits.

4. LCS Results

The LCS recoveries were within the laboratory-established QC limits.

5. MS and MSD Results

A site-specific MS and MSD were not analyzed. For the MS and MSDs that were analyzed, the recoveries and RPDs were acceptable.

6. Field Duplicate Results

Sample SCS-SS01Dup-022513 is a field duplicate of sample SCS-SS01-022513. The RPDs between the two samples were less than a standard QC limit of 50 percent which is acceptable.

7. Overall Assessment

The TCLP metals data are acceptable for use based on the information received.

GENERAL CHEMISTRY PARAMETERS (Hexavalent Chromium by 7196A)

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
SCS-SS05-022513	1302776-11	Soil	2/25/2013	2/27/2013
SCS-SS06-022513	1302776-13	Soil	2/25/2013	2/27/2013
SCS-SS07-022513	1302776-15	Soil	2/25/2013	2/27/2013

2. Holding Times

The holding time of 30 days for hexavalent chromium analysis of solid samples was met.

3. Method Blanks

A method blank was analyzed with the hexavalent chromium analyses and was free of target analyte contamination above the reporting limit.

4. LCS Results

The percent recoveries were within QC limits for the LCSs analyzed.

5. MS and MSD Results

A site-specific MS and MSD were not analyzed. No qualifications were required for this omission.

6. Overall Assessment

The hexavalent chromium data are acceptable for use based on the information received.

ATTACHMENT

ALS ENVIRONMENTAL
RESULTS SUMMARY WITH QUALIFIERS

ALS Group USA, Corp

Date: 05-Mar-13

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
WorkOrder: **1302776**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
SD	Serial Dilution
TDL	Target Detection Limit

Units Reported	Description
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS01-022513
Lab ID: 1302776-01
Collection Date: 02/25/13 02:25 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	**0.068**		**0.024**	**mg/Kg-dry**	1	03/04/13 02:15 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **02/27/13**	Analyst: **CES**
Arsenic	**8.7**		**2.7**	**mg/Kg-dry**	5	03/01/13 03:54 AM
Barium	**420**		**2.7**	**mg/Kg-dry**	5	03/01/13 03:54 AM
Cadmium	**6.6**		**1.1**	**mg/Kg-dry**	5	03/01/13 03:54 AM
Chromium	**28**		**27**	**mg/Kg-dry**	50	03/01/13 05:38 PM
Lead	**8,600**		**270**	**mg/Kg-dry**	500	03/01/13 04:55 PM
Selenium	ND		2.7	mg/Kg-dry	5	03/01/13 03:54 AM
Silver	ND		2.7	mg/Kg-dry	5	03/01/13 03:54 AM
MOISTURE			**A2540 G**			Analyst: **DC**
Moisture	**28**		**0.050**	**% of sample**	1	02/27/13 12:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS01-022513
Lab ID: 1302776-02
Collection Date: 02/25/13 02:25 PM
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			**SW7470A**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	ND		0.0020	mg/L	1	03/04/13 03:49 PM
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep Date: **02/28/13**	Analyst: **RH**
Arsenic	ND		0.010	mg/L	1	02/28/13 04:38 PM
Barium	**2.0**		**0.050**	**mg/L**	1	02/28/13 04:38 PM
Cadmium	**0.035**		**0.0020**	**mg/L**	1	02/28/13 04:38 PM
Chromium	ND		0.020	mg/L	1	02/28/13 04:38 PM
Lead	**110**	*	**0.10**	**mg/L**	10	03/01/13 04:12 PM
Selenium	ND		0.020	mg/L	1	02/28/13 04:38 PM
Silver	ND		0.0050	mg/L	1	02/28/13 04:38 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS02-022513
Lab ID: 1302776-03
Collection Date: 02/25/13 02:32 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	**0.063**		**0.024**	**mg/Kg-dry**	1	03/04/13 02:17 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **02/27/13**	Analyst: **CES**
Arsenic	**15**		**2.6**	**mg/Kg-dry**	5	03/01/13 04:00 AM
Barium	**440**		**2.6**	**mg/Kg-dry**	5	03/01/13 04:00 AM
Cadmium	**7.5**		**1.0**	**mg/Kg-dry**	5	03/01/13 04:00 AM
Chromium	**46**		**26**	**mg/Kg-dry**	50	03/01/13 05:01 PM
Lead	**8,300**		**26**	**mg/Kg-dry**	50	03/01/13 05:01 PM
Selenium	ND		2.6	mg/Kg-dry	5	03/01/13 04:00 AM
Silver	**2.9**		**2.6**	**mg/Kg-dry**	5	03/01/13 04:00 AM
MOISTURE			**A2540 G**			Analyst: **DC**
Moisture	**25**		**0.050**	**% of sample**	1	02/27/13 12:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS02-022513
Lab ID: 1302776-04
Collection Date: 02/25/13 02:32 PM
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			**SW7470A**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	ND		0.0020	mg/L	1	03/04/13 03:22 PM
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep Date: **02/28/13**	Analyst: **RH**
Arsenic	ND		0.010	mg/L	1	02/28/13 04:43 PM
Barium	**2.1**		**0.050**	**mg/L**	1	02/28/13 04:43 PM
Cadmium	**0.051**		**0.0020**	**mg/L**	1	02/28/13 04:43 PM
Chromium	ND		0.020	mg/L	1	02/28/13 04:43 PM
Lead	**58**	*	**0.10**	**mg/L**	10	03/01/13 04:18 PM
Selenium	ND		0.020	mg/L	1	02/28/13 04:43 PM
Silver	ND		0.0050	mg/L	1	02/28/13 04:43 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS01Dup-022513
Lab ID: 1302776-05
Collection Date: 02/25/13 02:25 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	**0.067**		**0.025**	**mg/Kg-dry**	1	03/04/13 02:25 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **02/27/13**	Analyst: **CES**
Arsenic	**12**		**2.6**	**mg/Kg-dry**	5	03/01/13 04:06 AM
Barium	**450**		**2.6**	**mg/Kg-dry**	5	03/01/13 04:06 AM
Cadmium	**5.5**		**1.1**	**mg/Kg-dry**	5	03/01/13 04:06 AM
Chromium	**32**		**26**	**mg/Kg-dry**	50	03/01/13 05:43 PM
Lead	**9,400**		**260**	**mg/Kg-dry**	500	03/01/13 05:07 PM
Selenium	ND		2.6	mg/Kg-dry	5	03/01/13 04:06 AM
Silver	ND		2.6	mg/Kg-dry	5	03/01/13 04:06 AM
MOISTURE			**A2540 G**			Analyst: **DC**
Moisture	**29**		**0.050**	**% of sample**	1	02/27/13 12:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS01Dup-022513
Lab ID: 1302776-06
Collection Date: 02/25/13 02:25 PM
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			**SW7470A**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	ND		0.0020	mg/L	1	03/04/13 03:24 PM
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep Date: **02/28/13**	Analyst: **RH**
Arsenic	ND		0.010	mg/L	1	02/28/13 04:48 PM
Barium	**1.8**		**0.050**	**mg/L**	1	02/28/13 04:48 PM
Cadmium	**0.035**		**0.0020**	**mg/L**	1	02/28/13 04:48 PM
Chromium	ND		0.020	mg/L	1	02/28/13 04:48 PM
Lead	**100**	*	**0.10**	**mg/L**	10	03/01/13 04:23 PM
Selenium	ND		0.020	mg/L	1	02/28/13 04:48 PM
Silver	ND		0.0050	mg/L	1	02/28/13 04:48 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS03-022513
Lab ID: 1302776-07
Collection Date: 02/25/13 02:45 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	**0.19**		**0.024**	**mg/Kg-dry**	1	03/04/13 02:27 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **02/27/13**	Analyst: **CES**
Arsenic	**8.2**		**2.9**	**mg/Kg-dry**	5	03/01/13 04:12 AM
Barium	**80**		**2.9**	**mg/Kg-dry**	5	03/01/13 04:12 AM
Cadmium	**1.3**		**1.1**	**mg/Kg-dry**	5	03/01/13 04:12 AM
Chromium	**20**		**2.9**	**mg/Kg-dry**	5	03/01/13 04:12 AM
Lead	**120**		**2.9**	**mg/Kg-dry**	5	03/01/13 04:12 AM
Selenium	ND		2.9	mg/Kg-dry	5	03/01/13 04:12 AM
Silver	ND		2.9	mg/Kg-dry	5	03/01/13 04:12 AM
MOISTURE			**A2540 G**			Analyst: **DC**
Moisture	**31**		**0.050**	**% of sample**	1	02/27/13 12:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS03-022513
Lab ID: 1302776-08
Collection Date: 02/25/13 02:45 PM
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			**SW7470A**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	ND		0.0020	mg/L	1	03/04/13 03:26 PM
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep Date: **02/28/13**	Analyst: **RH**
Arsenic	ND		0.010	mg/L	1	02/28/13 04:53 PM
Barium	**0.26**		**0.050**	**mg/L**	1	02/28/13 04:53 PM
Cadmium	**0.0025**		**0.0020**	**mg/L**	1	02/28/13 04:53 PM
Chromium	ND		0.020	mg/L	1	02/28/13 04:53 PM
Lead	**0.048**		**0.010**	**mg/L**	1	02/28/13 04:53 PM
Selenium	ND		0.020	mg/L	1	02/28/13 04:53 PM
Silver	ND		0.0050	mg/L	1	02/28/13 04:53 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS04-022513
Lab ID: 1302776-09
Collection Date: 02/25/13 02:55 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	**0.20**		**0.029**	**mg/Kg-dry**	1	03/04/13 02:29 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **02/27/13**	Analyst: **CES**
Arsenic	**7.6**		**3.2**	**mg/Kg-dry**	5	03/01/13 04:18 AM
Barium	**120**		**3.2**	**mg/Kg-dry**	5	03/01/13 04:18 AM
Cadmium	**1.4**		**1.3**	**mg/Kg-dry**	5	03/01/13 04:18 AM
Chromium	**10**		**3.2**	**mg/Kg-dry**	5	03/01/13 04:18 AM
Lead	**97**		**3.2**	**mg/Kg-dry**	5	03/01/13 04:18 AM
Selenium	ND		3.2	mg/Kg-dry	5	03/01/13 04:18 AM
Silver	**3.4**		**3.2**	**mg/Kg-dry**	5	03/01/13 04:18 AM
MOISTURE			**A2540 G**			Analyst: **DC**
Moisture	**42**		**0.050**	**% of sample**	1	02/27/13 12:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS04-022513
Lab ID: 1302776-10
Collection Date: 02/25/13 02:55 PM
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			**SW7470A**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	ND		0.0020	mg/L	1	03/04/13 03:28 PM
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep Date: **02/28/13**	Analyst: **RH**
Arsenic	ND		0.010	mg/L	1	02/28/13 04:58 PM
Barium	**0.91**		**0.050**	**mg/L**	1	02/28/13 04:58 PM
Cadmium	**0.0056**		**0.0020**	**mg/L**	1	02/28/13 04:58 PM
Chromium	ND		0.020	mg/L	1	02/28/13 04:58 PM
Lead	**0.12**		**0.010**	**mg/L**	1	02/28/13 04:58 PM
Selenium	ND		0.020	mg/L	1	02/28/13 04:58 PM
Silver	ND		0.0050	mg/L	1	02/28/13 04:58 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS05-022513
Lab ID: 1302776-11
Collection Date: 02/25/13 03:10 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	**0.11**		**0.021**	**mg/Kg-dry**	1	03/04/13 02:31 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **02/27/13**	Analyst: **CES**
Arsenic	**20**		**2.5**	**mg/Kg-dry**	5	03/01/13 06:15 AM
Barium	**740**		**2.5**	**mg/Kg-dry**	5	03/01/13 06:15 AM
Cadmium	**11**		**1.0**	**mg/Kg-dry**	5	03/01/13 06:15 AM
Chromium	**260**		**2.5**	**mg/Kg-dry**	5	03/01/13 06:15 AM
Lead	**2,500**		**25**	**mg/Kg-dry**	50	03/01/13 05:32 PM
Selenium	ND		2.5	mg/Kg-dry	5	03/01/13 06:15 AM
Silver	ND		2.5	mg/Kg-dry	5	03/01/13 06:15 AM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep Date: **02/26/13**	Analyst: **JB**
Chromium, Hexavalent	ND		0.66	mg/Kg-dry	1	02/27/13 10:00 AM
MOISTURE			**A2540 G**			Analyst: **DC**
Moisture	**23**		**0.050**	**% of sample**	1	02/27/13 12:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS05-022513
Lab ID: 1302776-12
Collection Date: 02/25/13 03:10 PM
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			**SW7470A**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	ND		0.0020	mg/L	1	03/04/13 03:31 PM
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep Date: **02/28/13**	Analyst: **RH**
Arsenic	ND		0.010	mg/L	1	02/28/13 05:03 PM
Barium	**2.0**		**0.050**	**mg/L**	1	02/28/13 05:03 PM
Cadmium	**0.042**		**0.0020**	**mg/L**	1	02/28/13 05:03 PM
Chromium	**0.12**		**0.020**	**mg/L**	1	02/28/13 05:03 PM
Lead	**0.29**		**0.010**	**mg/L**	1	02/28/13 05:03 PM
Selenium	ND		0.020	mg/L	1	02/28/13 05:03 PM
Silver	ND		0.0050	mg/L	1	02/28/13 05:03 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS06-022513
Lab ID: 1302776-13
Collection Date: 02/25/13 03:15 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	**0.021**		**0.014**	**mg/Kg-dry**	1	03/04/13 02:33 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **02/27/13**	Analyst: **CES**
Arsenic	ND		1.8	mg/Kg-dry	5	03/01/13 06:21 AM
Barium	**50**		**1.8**	**mg/Kg-dry**	5	03/01/13 06:21 AM
Cadmium	ND		0.73	mg/Kg-dry	5	03/01/13 06:21 AM
Chromium	**18**		**1.8**	**mg/Kg-dry**	5	03/01/13 06:21 AM
Lead	**62**		**1.8**	**mg/Kg-dry**	5	03/01/13 06:21 AM
Selenium	ND		1.8	mg/Kg-dry	5	03/01/13 06:21 AM
Silver	ND		1.8	mg/Kg-dry	5	03/01/13 06:21 AM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep Date: **02/26/13**	Analyst: **JB**
Chromium, Hexavalent	ND		0.58	mg/Kg-dry	1	02/27/13 10:00 AM
MOISTURE			**A2540 G**			Analyst: **DC**
Moisture	**1.3**		**0.050**	**% of sample**	1	02/27/13 12:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS06-022513
Lab ID: 1302776-14
Collection Date: 02/25/13 03:15 PM
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			**SW7470A**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	ND		0.0020	mg/L	1	03/04/13 03:33 PM
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep Date: **02/28/13**	Analyst: **RH**
Arsenic	ND		0.010	mg/L	1	02/28/13 05:08 PM
Barium	**0.098**		**0.050**	**mg/L**	1	02/28/13 05:08 PM
Cadmium	ND		0.0020	mg/L	1	02/28/13 05:08 PM
Chromium	ND		0.020	mg/L	1	02/28/13 05:08 PM
Lead	**0.30**		**0.010**	**mg/L**	1	02/28/13 05:08 PM
Selenium	ND		0.020	mg/L	1	02/28/13 05:08 PM
Silver	ND		0.0050	mg/L	1	02/28/13 05:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS07-022513
Lab ID: 1302776-15
Collection Date: 02/25/13 03:42 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	**1.5**		**0.23**	**mg/Kg-dry**	10	03/04/13 03:04 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **03/01/13**	Analyst: **CES**
Arsenic	**9.7**		**2.9**	**mg/Kg-dry**	5	03/02/13 12:13 AM
Barium	**230**		**2.9**	**mg/Kg-dry**	5	03/02/13 12:13 AM
Cadmium	**12**		**1.2**	**mg/Kg-dry**	5	03/02/13 12:13 AM
Chromium	**590**		**2.9**	**mg/Kg-dry**	5	03/02/13 12:13 AM
Lead	**3,000**		**58**	**mg/Kg-dry**	100	03/04/13 03:33 PM
Selenium	**3.7**		**2.9**	**mg/Kg-dry**	5	03/02/13 12:13 AM
Silver	**11**		**2.9**	**mg/Kg-dry**	5	03/02/13 12:13 AM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep Date: **02/26/13**	Analyst: **JB**
Chromium, Hexavalent	ND		0.74	mg/Kg-dry	1	02/27/13 10:00 AM
MOISTURE			**A2540 G**			Analyst: **DC**
Moisture	**33**		**0.050**	**% of sample**	1	02/27/13 12:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS07-022513
Lab ID: 1302776-16
Collection Date: 02/25/13 03:42 PM
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			**SW7470A**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	ND		0.0020	mg/L	1	03/04/13 03:35 PM
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep Date: **02/28/13**	Analyst: **RH**
Arsenic	ND		0.010	mg/L	1	02/28/13 05:29 PM
Barium	**1.7**		**0.050**	**mg/L**	1	02/28/13 05:29 PM
Cadmium	**0.039**		**0.0020**	**mg/L**	1	02/28/13 05:29 PM
Chromium	ND		0.020	mg/L	1	02/28/13 05:29 PM
Lead	**0.75**		**0.010**	**mg/L**	1	02/28/13 05:29 PM
Selenium	ND		0.020	mg/L	1	02/28/13 05:29 PM
Silver	ND		0.0050	mg/L	1	02/28/13 05:29 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS08-022513
Lab ID: 1302776-17
Collection Date: 02/25/13 03:50 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	**0.019**		**0.015**	**mg/Kg-dry**	1	03/04/13 02:38 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **03/01/13**	Analyst: **CES**
Arsenic	**6.2**		**2.6**	**mg/Kg-dry**	5	03/02/13 12:19 AM
Barium	**37**		**2.6**	**mg/Kg-dry**	5	03/02/13 12:19 AM
Cadmium	**0.43**		**0.21**	**mg/Kg-dry**	1	03/04/13 03:38 PM
Chromium	**3.6**		**2.6**	**mg/Kg-dry**	5	03/02/13 12:19 AM
Lead	**56**		**2.6**	**mg/Kg-dry**	5	03/02/13 12:19 AM
Selenium	**0.54**		**0.52**	**mg/Kg-dry**	1	03/04/13 03:38 PM
Silver	ND		0.52	mg/Kg-dry	1	03/04/13 03:38 PM
MOISTURE			**A2540 G**			Analyst: **DC**
Moisture	**4.4**		**0.050**	**% of sample**	1	02/27/13 12:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS08-022513
Lab ID: 1302776-18
Collection Date: 02/25/13 03:50 PM
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			**SW7470A**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	ND		0.0020	mg/L	1	03/04/13 03:37 PM
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep Date: **02/28/13**	Analyst: **RH**
Arsenic	ND		0.010	mg/L	1	02/28/13 05:34 PM
Barium	**0.13**		**0.050**	**mg/L**	1	02/28/13 05:34 PM
Cadmium	ND		0.0020	mg/L	1	02/28/13 05:34 PM
Chromium	ND		0.020	mg/L	1	02/28/13 05:34 PM
Lead	**0.21**		**0.010**	**mg/L**	1	02/28/13 05:34 PM
Selenium	ND		0.020	mg/L	1	02/28/13 05:34 PM
Silver	ND		0.0050	mg/L	1	02/28/13 05:34 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS09-022513
Lab ID: 1302776-19
Collection Date: 02/25/13 04:10 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	ND		0.015	mg/Kg-dry	1	03/04/13 02:40 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **03/01/13**	Analyst: **CES**
Arsenic	ND		0.39	mg/Kg-dry	1	03/04/13 03:44 PM
Barium	**4.1**		**1.9**	**mg/Kg-dry**	5	03/02/13 12:25 AM
Cadmium	ND		0.16	mg/Kg-dry	1	03/04/13 03:44 PM
Chromium	**9.0**		**1.9**	**mg/Kg-dry**	5	03/02/13 12:25 AM
Lead	**5.8**		**1.9**	**mg/Kg-dry**	5	03/02/13 12:25 AM
Selenium	ND		0.39	mg/Kg-dry	1	03/04/13 03:44 PM
Silver	ND		0.39	mg/Kg-dry	1	03/04/13 03:44 PM
MOISTURE			**A2540 G**			Analyst: **DC**
Moisture	**3.8**		**0.050**	**% of sample**	1	02/27/13 12:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SS09-022513
Lab ID: 1302776-20
Collection Date: 02/25/13 04:10 PM
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			**SW7470A**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	ND		0.0020	mg/L	1	03/04/13 03:39 PM
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep Date: **02/28/13**	Analyst: **RH**
Arsenic	ND		0.010	mg/L	1	02/28/13 05:39 PM
Barium	**0.089**		**0.050**	**mg/L**	1	02/28/13 05:39 PM
Cadmium	ND		0.0020	mg/L	1	02/28/13 05:39 PM
Chromium	ND		0.020	mg/L	1	02/28/13 05:39 PM
Lead	**0.012**		**0.010**	**mg/L**	1	02/28/13 05:39 PM
Selenium	ND		0.020	mg/L	1	02/28/13 05:39 PM
Silver	ND		0.0050	mg/L	1	02/28/13 05:39 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SD01-022513
Lab ID: 1302776-21
Collection Date: 02/25/13 03:00 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	**0.10**		**0.031**	**mg/Kg-dry**	1	03/04/13 02:42 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **03/01/13**	Analyst: **CES**
Arsenic	**9.3**		**3.9**	**mg/Kg-dry**	5	03/02/13 12:31 AM
Barium	**87**		**3.9**	**mg/Kg-dry**	5	03/02/13 12:31 AM
Cadmium	**1.4**		**0.31**	**mg/Kg-dry**	1	03/04/13 03:50 PM
Chromium	**12**		**3.9**	**mg/Kg-dry**	5	03/02/13 12:31 AM
Lead	**160**		**3.9**	**mg/Kg-dry**	5	03/02/13 12:31 AM
Selenium	**1.1**		**0.78**	**mg/Kg-dry**	1	03/04/13 03:50 PM
Silver	**2.1**		**0.78**	**mg/Kg-dry**	1	03/04/13 03:50 PM
MOISTURE			**A2540 G**			Analyst: **DC**
Moisture	**62**		**0.050**	**% of sample**	1	02/27/13 12:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SD01-022513
Lab ID: 1302776-22
Collection Date: 02/25/13 03:00 PM
Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY BY CVAA			**SW7470A**		Prep Date: **03/04/13**	Analyst: **LR**
Mercury	ND		0.0020	mg/L	1	03/04/13 03:41 PM
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep Date: **02/28/13**	Analyst: **RH**
Arsenic	ND		0.010	mg/L	1	02/28/13 05:44 PM
Barium	**0.55**		**0.050**	**mg/L**	1	02/28/13 05:44 PM
Cadmium	**0.0030**		**0.0020**	**mg/L**	1	02/28/13 05:44 PM
Chromium	ND		0.020	mg/L	1	02/28/13 05:44 PM
Lead	**0.028**		**0.010**	**mg/L**	1	02/28/13 05:44 PM
Selenium	ND		0.020	mg/L	1	02/28/13 05:44 PM
Silver	ND		0.0050	mg/L	1	02/28/13 05:44 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SW01-022513
Lab ID: 1302776-23
Collection Date: 02/25/13 03:05 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **02/28/13**	Analyst: **JD**
Aroclor 1016	ND		0.00040	mg/L	1	03/01/13 01:05 AM
Aroclor 1221	ND		0.00040	mg/L	1	03/01/13 01:05 AM
Aroclor 1232	ND		0.00040	mg/L	1	03/01/13 01:05 AM
Aroclor 1242	ND		0.00040	mg/L	1	03/01/13 01:05 AM
Aroclor 1248	ND		0.00040	mg/L	1	03/01/13 01:05 AM
Aroclor 1254	ND		0.00040	mg/L	1	03/01/13 01:05 AM
Aroclor 1260	ND		0.00040	mg/L	1	03/01/13 01:05 AM
Surr: Decachlorobiphenyl	*80.0*		*40-140*	*%REC*	1	03/01/13 01:05 AM
PESTICIDES			**SW8081**		Prep Date: **02/28/13**	Analyst: **JD**
4,4´-DDD	ND		0.00010	mg/L	5	03/04/13 11:56 AM
4,4´-DDE	ND		0.00010	mg/L	5	03/04/13 11:56 AM
4,4´-DDT	ND		0.00010	mg/L	5	03/04/13 11:56 AM
Aldrin	ND		0.000050	mg/L	5	03/04/13 11:56 AM
alpha-BHC	ND		0.000050	mg/L	5	03/04/13 11:56 AM
alpha-Chlordane	ND		0.00010	mg/L	5	03/04/13 11:56 AM
beta-BHC	ND		0.000050	mg/L	5	03/04/13 11:56 AM
Chlordane, Technical	ND		0.0025	mg/L	5	03/04/13 11:56 AM
delta-BHC	ND		0.000050	mg/L	5	03/04/13 11:56 AM
Dieldrin	ND		0.00010	mg/L	5	03/04/13 11:56 AM
Endosulfan I	ND		0.00010	mg/L	5	03/04/13 11:56 AM
Endosulfan II	ND		0.00010	mg/L	5	03/04/13 11:56 AM
Endosulfan sulfate	ND		0.00010	mg/L	5	03/04/13 11:56 AM
Endrin	ND		0.00010	mg/L	5	03/04/13 11:56 AM
Endrin aldehyde	ND		0.00010	mg/L	5	03/04/13 11:56 AM
Endrin ketone	ND		0.00010	mg/L	5	03/04/13 11:56 AM
gamma-BHC (Lindane)	ND		0.000050	mg/L	5	03/04/13 11:56 AM
gamma-Chlordane	ND		0.00010	mg/L	5	03/04/13 11:56 AM
Heptachlor	ND		0.000050	mg/L	5	03/04/13 11:56 AM
Heptachlor epoxide	ND		0.000050	mg/L	5	03/04/13 11:56 AM
Hexachlorobenzene	ND		0.000050	mg/L	5	03/04/13 11:56 AM
Methoxychlor	ND		0.00020	mg/L	5	03/04/13 11:56 AM
Toxaphene	ND		0.010	mg/L	5	03/04/13 11:56 AM
Surr: Decachlorobiphenyl	*75.0*		*30-145*	*%REC*	5	03/04/13 11:56 AM
Surr: Tetrachloro-m-xylene	*60.0*		*25-140*	*%REC*	5	03/04/13 11:56 AM
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS) - SIM			**SW8270M**		Prep Date: **02/28/13**	Analyst: **HL**
2-Methylnaphthalene	ND		0.000070	mg/L	1	03/01/13 06:46 PM
Acenaphthene	ND		0.000060	mg/L	1	03/01/13 06:46 PM
Acenaphthylene	ND		0.000080	mg/L	1	03/01/13 06:46 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Mar-13*

Client: Weston Solutions, Inc
Project: 20405.016.001.2097.00/Sugar Creek
Work Order: 1302776
Sample ID: SCS-SW01-022513
Lab ID: 1302776-23
Collection Date: 02/25/13 03:05 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Anthracene	ND		0.000060	mg/L	1	03/01/13 06:46 PM
Benzo(a)anthracene	ND		0.000040	mg/L	1	03/01/13 06:46 PM
Benzo(a)pyrene	ND		0.000080	mg/L	1	03/01/13 06:46 PM
Benzo(b)fluoranthene	ND		0.000090	mg/L	1	03/01/13 06:46 PM
Benzo(g,h,i)perylene	ND		0.000080	mg/L	1	03/01/13 06:46 PM
Benzo(k)fluoranthene	ND		0.000050	mg/L	1	03/01/13 06:46 PM
Chrysene	ND		0.000050	mg/L	1	03/01/13 06:46 PM
Dibenzo(a,h)anthracene	ND		0.000080	mg/L	1	03/01/13 06:46 PM
Fluoranthene	ND		0.000070	mg/L	1	03/01/13 06:46 PM
Fluorene	ND		0.000050	mg/L	1	03/01/13 06:46 PM
Indeno(1,2,3-cd)pyrene	ND		0.000070	mg/L	1	03/01/13 06:46 PM
Naphthalene	ND		0.000070	mg/L	1	03/01/13 06:46 PM
Phenanthrene	ND		0.000080	mg/L	1	03/01/13 06:46 PM
Pyrene	ND		0.000050	mg/L	1	03/01/13 06:46 PM
Surr: 2-Fluorobiphenyl	*63.8*		*10-112*	*%REC*	1	03/01/13 06:46 PM
Surr: 4-Terphenyl-d14	*72.8*		*10-132*	*%REC*	1	03/01/13 06:46 PM
Surr: Nitrobenzene-d5	*68.8*		*15-110*	*%REC*	1	03/01/13 06:46 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.